

REMARKS/ARGUMENTS

**Claim Status**

Claims 15-34 are pending. Claim 15 is amended. Claims 32-34 are added. Claim 15 is amended for clarity. New claim 32 finds support in the specification; pg. 20, line 30. New claim 33 finds support in the specification; pg. 20, line 30 to pg. 21, line 1. New claim 34 finds support in the specification; pg. 9, lines 1-5. No new matter is believed to have been introduced. Reconsideration is respectfully requested.

Applicants thank Examiner Campanell for the indication of allowable subject matter in claims 23, 25, and 31. The indication of allowable subject matter is truly appreciated.

**Claim Objection**

Claims 23, 25, and 31 stand objected to as being dependent upon a rejected base claim. As the obviousness grounds of the rejections of the base claims are respectfully traversed and their withdrawals are respectfully requested below, Applicants accordingly request withdrawal of the objections.

**Claim Rejection - 35 U.S.C. 103(a)**

Claims 15-16, 19-22, 24, and 26-30 stand rejected under 35 U.S.C. 103(a) as obvious over Kaizik *et al.*, U.S. Patent No. 6,627,782 (“Kaizik”) in view of Kukes, *et al.*, U.S. Patent No. 4,465,890 (“Kukes”). The ground of this rejection is respectfully traversed.

Where claim 15 claims hydrogenating an aldehyde to produce a terminal alcohol, Kaizik teaches the different process of condensing a terminal aldehyde to produce an  $\alpha,\beta$ -unsaturated ketone and subsequently hydrogenating that  $\alpha,\beta$ -unsaturated ketone to produce a 2-alcohol. One might read Kaizik to also teach the hydrogenation of any remaining starting aldehyde in mixture with the hydrogenation of  $\alpha,\beta$ -unsaturated ketone, which, if

accomplished, would produce a terminal alcohol (i.e., a 1-alcohol). *See Kaizik* col. 3 ll. 37-46.<sup>1</sup> Even supposing that such a reading is proper in the context of *Kaizik*, *Kaizik*'s aldehyde condensation with acetone and subsequent hydrogenation of the resulting  $\alpha,\beta$ -unsaturated ketone would produce 2-alcohols, having greater molecular weight and carbon number than the inadvertently produced terminal or 1-alcohols, due to the condensation step. Thus, *Kaizik*'s intended larger 2-alcohol product would differ significantly from any smaller 1-alcohol produced by inadvertently hydrogenating starting aldehyde. Importantly, in proceeding from the 2-alcohols to the desired 1-olefins according to the reference scheme *Kaizik* states:

Accordingly, the preparation of the 1-olefins is carried out in the process of the invention by dehydration of 2-alcohols in the gas phase or a gas/liquid mixed phase over a fixed-bed catalyst.

The reaction mixture can, if desired after removal of water, be separated by distillation into starting alcohol, olefins and by-products. The unreacted alcohol can be returned to the dehydration step.

If the olefin fraction further comprises olefins other than the target product, the pure 1-olefin can be isolated from it by distillation.

See col. 4, lines 32-42 of *Kaizik*.

Clearly, *Kaizik* would not dehydrate any lower molecular weight 1-alcohol inadvertently produced from the starting aldehyde, and even if he did the lighter olefin produced would subsequently be removed from his target olefin by distillation. Thus, and regardless of what *Kukes* teaches regarding metathesis, one of ordinary skill in the art would not look to further manipulate what essentially is, at best, a speculative and inadvertently produced, undesirable impurity possibly coming from the *Kaizik* process. Because *Kukes*

---

<sup>1</sup> In an earlier office action, dated April 20, 2009, the Examiner appears to have read *Kaizik* in this way.

Application No. 10/588,762  
Reply to Office Action of June 4, 2010

relates only to a methathesis process and catalyst and fails to make up for that lacking in Kaizik the rejection should be reconsidered and withdrawn.

Claims 17 and 18 stand rejected under 35 U.S.C. 103(a) as obvious over Kaizik in view of Kukes and Gelling *et al.*, U.S. Patent No. 6,153,800 ("Gelling"). The ground of this rejection is respectfully traversed.

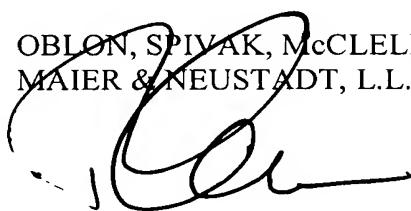
The Examiner cites Gelling regarding only the hydroformylation step, as that is the only step relevant to Gelling of claim 15, from which claims 17 and 18 depend. Gelling fails to teach the hydrogenation and dehydration methods of claim 15 that Kaizik and Kukes also fail to teach. Accordingly, since claims 17 and 18 are dependent on claim 15, Applicants therefore respectfully request withdrawal of the obviousness ground of rejection.

### **Conclusion**

For the reasons discussed above, Applicants submit that all pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the objections and rejections and passage of this case to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, L.L.P.



---

Richard L. Treanor  
Attorney of Record  
Registration No. 36,379

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 07/09)